

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-3. (Canceled)

4. (Previously Presented) The method of claim 6 wherein the extracting further comprises decomposing the affine transform into a translation and a linear transform matrix.

5. (Canceled)

6. (Previously Presented) A method comprising:

in response to user action on a canvas, selecting at least one area of a first image which relates to an area on a distortion grid;

using a plurality of points local to the at least one area to calculate a distortion;

extracting a rotation component of the distortion, wherein the extracting comprises calculating an affine transform from the plurality of points, the extraction of rotation comprising calculating an angle from the elements of a linear transform matrix; and

applying the rotation component to a second area of the first image.

7. (Previously Presented) A method comprising:

in response to user action on a canvas, selecting at least one area of a first image which relates to an area on a distortion grid;

using a plurality of points local to the at least one area to calculate a distortion;

extracting a scaling component of the distortion, wherein the extracting comprises calculating an affine transform from the plurality of points, the extraction of scaling comprising calculating a pair of eigenvalues of a linear transform matrix, wherein each eigenvalue represents the amount of scaling in a direction represented by a corresponding projection matrix; and

applying the scaling component to a second area of the first image.

8. (Previously Presented) The method of claim 7 wherein a rotation is removed from the linear transform matrix prior to calculating the pair of eigenvalues.

9. (Previously Presented) The method of claim 7 wherein a skew is removed from the linear transform matrix prior to calculating the pair of eigenvalues.

10. (Previously Presented) The method of claim 6 wherein a user selects the rotation component.

11. (Previously Presented) The method of claim 10 wherein the user selects the rotation component from a menu displayed on a user interface.

12. (Previously Presented) The method of claim 6 wherein a user selects the area for the applying by the location of a virtual brush.

13. (Previously Presented) The method of claim 6 wherein the applying is to an entire image.

14. (Currently Amended) A method comprising:

receiving a selection of one or more distortion components;

receiving a selection of a first ~~in response to user action on a canvas, selecting at least one area of a first image, the first area relating which relates to an area on a distortion grid, the selected first area of the first image including a first pre-existing distortion including one or more distortion components;~~

extracting the one or more selected distortion components from the first pre-existing distortion;

~~using a plurality of points local to the at least one area to calculate the distortion;~~

~~extracting at least one component of the distortion;~~

~~applying the one or more extracted distortion components at least one component to a second area of the first image; and~~

~~applying the one or more extracted distortion components at least one component to a second image.~~

15. (Previously Presented) The method of claim 14 wherein the second image is different from the first image.

16-20. (Canceled)

21. (Previously Presented) A computer program product, disposed in a computer readable medium, having instructions to cause a computer to:

- using a plurality of points surrounding a first area of an image related to an area in a distortion grid, calculate an angular rotation amount of a distortion at the first area;
- calculate an affine transform from the plurality of points;
- decompose the affine transform into a translation and a linear transform matrix and calculate an angle from the elements of the linear transform matrix; and
- apply the angular rotation amount of the distortion to a second area of the image.

22. (Previously Presented) A computer program product, disposed in a computer readable medium, having instructions to cause a computer to:

- using a plurality of points surrounding a first area of an image related to an area in a distortion grid, calculate a scaling amount of a distortion at the first area;
- calculate an affine transform from the plurality of points,
- decompose the affine transform into a translation and a linear transform matrix and calculate a pair of eigenvalues of the linear transform matrix, and wherein each eigenvalue represents the amount of scaling in a direction represented by a corresponding projection matrix; and
- apply the scaling amount of the distortion to a second area of the image.

23. (Previously Presented) The computer program product of claim 22 wherein rotation is removed from the linear transform matrix prior to calculating the pair of eigenvalues.

24. (Previously Presented) The computer program product of claim 22 wherein skew is removed from the linear transform matrix prior to calculating the pair of eigenvalues.

25. (Previously Presented) The computer program product of claim 21 wherein a user selects the angular rotation amount.

26. (Previously Presented) The computer program product of claim 25 wherein the user selects the angular rotation amount from a menu displayed on a user interface.

27. (Previously Presented) The computer program product of claim 21 wherein the area for the applying is selected by a user, responsive to the movement of a virtual brush.

28. (Previously Presented) The computer program product of claim 21 wherein the angular rotation amount is applied to an entire image.

29. (Currently Amended) A computer program product, disposed in a computer readable medium, having instructions to cause a computer to:

receive a selection of one or more distortion components;

receive a selection of ~~use a plurality of points surrounding~~ a first area of ~~[[an]]~~ a first image related to an area in a distortion grid, the first area of the first image including a first ~~pre-existing~~ distortion including one or more distortion components; ~~the plurality of points being used to calculate at least one component of the distortion in the first area; and~~

extract the one or more selected distortion components from the first pre-existing distortion;

apply the one or more extracted distortion components ~~at least one component of the distortion~~ to a second area of the first image; and

apply the one or more extracted distortion components ~~at least one component of the distortion~~ to a second image.

30. (Previously Presented) The computer program product of claim 29 wherein the second image is different from the first image.

31-37. (Canceled)

38. (Currently Amended) A computer program product having instructions stored in a computer readable medium, containing instructions to cause a computer to:

display a first image on a canvas, the first image being related to an area on a distortion grid;

responsive to an input device controlled by a user, select an area of the first image, the selected area of the first image including a first pre-existing distortion including one or more distortion components;

responsive to a selection by the user from a menu of one or more distortion components, extract at least one selected distortion component of the pre-existing distortion from the selected area of the first image;

responsive to movement and location of a cursor controlled by the user, apply the at least one extracted distortion component to a second area of the first image; and

responsive to movement and location of a cursor controlled by the user, apply the at least one extracted distortion component to a second image.

39. (Previously Presented) The computer program product of claim 38 wherein the second image is different from the first image.

40. (Previously Presented) The method of claim 7 wherein the extracting further comprises decomposing the affine transform into a translation and a linear transform matrix.

41. (Previously Presented) The method of claim 7 wherein a user selects the scaling component.

42. (Previously Presented) The method of claim 7 wherein a user selects the area for the applying by the location of a virtual brush.

43. (Previously Presented) The method of claim 7 wherein the applying is to an entire image.

44. (Previously Presented) The computer program product of claim 22 wherein a user selects the scaling amount.

45. (Previously Presented) The computer program product of claim 22 wherein the area for the applying is selected by a user, responsive to the movement of a virtual brush.

46. (Previously Presented) The computer program product of claim 22 wherein the scaling amount is applied to an entire image.

47. (New) The method of claim 14, where the second area of the first image includes a second pre-existing distortion including one or more distortion components, where the second pre-existing distortion includes fewer distortion components than the first pre-existing distortion, and where applying the one or more extracted distortion components to the second area of the image causes one or more additional distortion components to be added to the second pre-existing distortion.

48. (New) The method of claim 14, where the second area of the first image does not include a pre-existing distortion, and where applying the one or more extracted distortion components to the second area of the first image generates a distortion in the second area of the first image.

49. (New) The method of claim 14, where the second area of the first image includes a second pre-existing distortion including one or more distortion components, where the second pre-existing distortion includes more distortion components than the first pre-existing distortion, and where applying the one or more extracted distortion components to the second area of the image causes one or more distortion components to be subtracted from the second pre-existing distortion.

50. (New) The method of claim 14, where the second image includes a second pre-existing distortion including one or more distortion components, where the second pre-existing distortion includes fewer distortion components than the first pre-existing distortion, and where applying the one or more extracted distortion components to the second image causes one or more additional distortion components to be added to the second pre-existing distortion.

51. (New) The method of claim 14, where the second image does not include a pre-existing distortion, and where applying the one or more extracted distortion components to the second image generates a distortion in the second image.

52. (New) The method of claim 14, where the second image includes a second pre-existing distortion including one or more distortion components, where the second pre-existing distortion includes more distortion components than the first pre-existing distortion, and where applying the one or more extracted distortion components to the second image causes one or more distortion components to be subtracted from the second pre-existing distortion.

53. (New) The method of claim 14, where a user selects the area for the applying by the location of a virtual brush.

54. (New) The method of claim 53, where the virtual brush is weighted.

55. (New) The computer program product of claim 29, where the second area of the first image includes a second pre-existing distortion including one or more distortion components, where the second pre-existing distortion includes fewer distortion components than the first pre-existing distortion, and where the instructions to apply the one or more extracted distortion components to the second area of the image causes one or more additional distortion components to be added to the second pre-existing distortion.

56. (New) The computer program product of claim 29, where the second area of the first image does not include a pre-existing distortion, and where the instructions to apply the one or more extracted distortion components to the second area of the first image generates a distortion in the second area of the first image.

57. (New) The computer program product of claim 29, where the second area of the first image includes a second pre-existing distortion including one or more distortion components, where the second pre-existing distortion includes more distortion components than the first pre-existing distortion, and where the instructions to apply the one or more extracted distortion components to the second area of the image causes one or more distortion components to be subtracted from the second pre-existing distortion.

58. (New) The computer program product of claim 29, where the second image includes a second pre-existing distortion including one or more distortion components, where the second pre-existing distortion includes fewer distortion components than the first pre-existing distortion, and where the instructions to apply the one or more extracted distortion components to the second image causes one or more additional distortion components to be added to the second pre-existing distortion.

59. (New) The computer program product of claim 29, where the second image does not include a pre-existing distortion, and where the instructions to apply the one or more extracted distortion components to the second image generates a distortion in the second image.

60. (New) The computer program product of claim 29, where the second image includes a second pre-existing distortion including one or more distortion components, where the second pre-existing distortion includes more distortion components than the first pre-existing distortion, and where the instructions to apply the one or more extracted distortion components to the second image causes one or more distortion components to be subtracted from the second pre-existing distortion.

61. (New) The computer program product of claim 29, where a user selects the area for the applying by the location of a virtual brush.

62. (New) The computer program product of claim 61, where the virtual brush is weighted.



63. (New) The computer program product of claim 38, where the second area of the first image includes a second pre-existing distortion including one or more distortion components, where the second pre-existing distortion includes fewer distortion components than the first pre-existing distortion, and where the instructions to apply the one or more extracted distortion components to the second area of the image causes one or more additional distortion components to be added to the second pre-existing distortion.

64. (New) The computer program product of claim 38, where the second area of the first image does not include a pre-existing distortion, and where the instructions to apply the one or more extracted distortion components to the second area of the first image generates a distortion in the second area of the first image.

65. (New) The computer program product of claim 38, where the second area of the first image includes a second pre-existing distortion including one or more distortion components, where the second pre-existing distortion includes more distortion components than the first pre-existing distortion, and where the instructions to apply the one or more extracted distortion components to the second area of the image causes one or more distortion components to be subtracted from the second pre-existing distortion.

66. (New) The computer program product of claim 38, where the second image includes a second pre-existing distortion including one or more distortion components, where the second pre-existing distortion includes fewer distortion components than the first pre-existing distortion, and where the instructions to apply the one or more extracted distortion components to the second image causes one or more additional distortion components to be added to the second pre-existing distortion.

67. (New) The computer program product of claim 38, where the second image does not include a pre-existing distortion, and where the instructions to apply the one or more extracted distortion components to the second image generates a distortion in the second image.

68. (New) The computer program product of claim 38, where the second image includes a second pre-existing distortion including one or more distortion components, where the second pre-existing distortion includes more distortion components than the first pre-existing distortion, and where the instructions to apply the one or more extracted distortion components to the second image causes one or more distortion components to be subtracted from the second pre-existing distortion.

69. (New) The computer program product of claim 38, where a user selects the area for the applying by the location of a virtual brush.

70. (New) The computer program product of claim 69, where the virtual brush is weighted.

71. (New) A system comprising:

a user input device, a display, a memory device, and a programmable processor configured to perform operations including:

in response to user action on a canvas, selecting at least one area of a first image which relates to an area on a distortion grid;

using a plurality of points local to the at least one area to calculate a distortion;

extracting a rotation component of the distortion, wherein the extracting comprises calculating an affine transform from the plurality of points, the extraction of rotation comprising calculating an angle from the elements of a linear transform matrix; and

applying the rotation component to a second area of the first image.

72. (New) The system of claim 71, wherein the extracting further comprises decomposing the affine transform into a translation and a linear transform matrix.

73. (New) The system of claim 71, wherein a user selects the rotation component.

74. (New) The system of claim 73, wherein the user selects the rotation component from a menu displayed on a user interface.

75. (New) The system of claim 71, wherein a user selects the area for the applying by the location of a virtual brush.

76. (New) The system of claim 71, wherein the applying is to an entire image.

77. (New) A system comprising:

a user input device, a display, a memory device, and a programmable processor configured to perform operations including:

in response to user action on a canvas, selecting at least one area of a first image which relates to an area on a distortion grid;

using a plurality of points local to the at least one area to calculate a distortion;

extracting a scaling component of the distortion, wherein the extracting comprises calculating an affine transform from the plurality of points, the extraction of scaling comprising calculating a pair of eigenvalues of a linear transform matrix, wherein each eigenvalue represents the amount of scaling in a direction represented by a corresponding projection matrix; and

applying the scaling component to a second area of the first image.

78. (New) The system of claim 77, wherein a rotation is removed from the linear transform matrix prior to calculating the pair of eigenvalues.

79. (New) The system of claim 77, wherein a skew is removed from the linear transform matrix prior to calculating the pair of eigenvalues.

80. (New) The system of claim 77, wherein the extracting further comprises decomposing the affine transform into a translation and a linear transform matrix.

81. (New) The system of claim 77, wherein a user selects the scaling component.

82. (Nw) The system of claim 77, wherein a user selects the area for the applying by the location of a virtual brush.

83. (New) The system of claim 77, wherein the applying is to an entire image.

84. (New) A system comprising:

a user input device, a display, a memory device, and a programmable processor configured to perform operations including:

receiving a selection of one or more distortion components;

receiving a selection of a first area of a first image, the first area relating to an area on a distortion grid, the first area of the first image including a first pre-existing distortion including one or more distortion components;

extracting the one or more selected distortion components from the first pre-existing distortion;

applying the one or more extracted distortion components to a second area of the first image; and

applying the one or more extracted distortion components to a second image.

85. (New) The system of claim 84, wherein the second image is different from the first image.

86. (New) The system of claim 84, where the second area of the first image includes a second pre-existing distortion including one or more distortion components, where the second pre-existing distortion includes fewer distortion components than the first pre-existing distortion, and where applying the one or more extracted distortion components to the second area of the image causes one or more additional distortion components to be added to the second pre-existing distortion.

87. (New) The system of claim 84, where the second area of the first image does not include a pre-existing distortion, and where applying the one or more extracted distortion components to the second area of the first image generates a distortion in the second area of the first image.

88. (New) The system of claim 84, where the second area of the first image includes a second pre-existing distortion including one or more distortion components, where the second pre-existing distortion includes more distortion components than the first pre-existing distortion, and where applying the one or more extracted distortion components to the second area of the

image causes one or more distortion components to be subtracted from the second pre-existing distortion.

89. (New) The system of claim 84, where the second image includes a second pre-existing distortion including one or more distortion components, where the second pre-existing distortion includes fewer distortion components than the first pre-existing distortion, and where applying the one or more extracted distortion components to the second image causes one or more additional distortion components to be added to the second pre-existing distortion.

90. (New) The system of claim 84, where the second image does not include a pre-existing distortion, and where applying the one or more extracted distortion components to the second image generates a distortion in the second image.

91. (New) The system of claim 84, where the second image includes a second pre-existing distortion including one or more distortion components, where the second pre-existing distortion includes more distortion components than the first pre-existing distortion, and where applying the one or more extracted distortion components to the second image causes one or more distortion components to be subtracted from the second pre-existing distortion.

92. (New) The system of claim 84, where a user selects the area for the applying by the location of a virtual brush.

93. (New) The system of claim 92, where the virtual brush is weighted.